

# FLIGHT

*The*  
**AIRCRAFT  
ENGINEER  
&  
AIRSHIPS**

First Aero Weekly in the World.

Founder and Editor: STANLEY SPOONER

A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport  
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## DIARY OF FORTHCOMING EVENTS

Club Secretaries and others desirous of announcing the dates of important fixtures are invited to send particulars for inclusion in the following list:

1922.

- Aug. 6 .... Gordon-Bennett Balloon Race, Geneva  
 Aug. 6-20 French Gliding Competition at Clermont-Ferrand  
 Aug. 7 .... Aerial Derby Starting at Waddon  
 Aug. 12 .... Schneider Cup Seaplane Race, at Naples  
 Sept. 2-17.... International Concours Aviatique, Rotterdam  
 Sept. 8-10.... 1,000 Miles Race round Britain for the King's Trophy  
 Sept. .... Tyrrhenian Cup, Italy  
 Sept. .... Italian Grand Prix  
 Sept. or Oct. R.Ae.C. Race Meeting, at Waddon  
 Sept. 22 .... Coupe Deutsch (300 kil.)  
 Dec. 15-  
 Jan. 2 Paris Aero Exhibition

1923.

- June .... International Air Congress, London  
 Dec. 1 .... Entries Close for French Aero Engine Competition

1924.

- Mar. 1 .... French Aero Engine Competition.  
 Mar. 15 .... Entries close for Dutch Height Indicator Competition

## EDITORIAL COMMENT.



IN spite of the present unsatisfactory state of the aircraft industry, it might have been expected that the list of entries for the Aerial Derby would have been larger than is, unfortunately, the case. Compared with previous years, ten entries is a very small "field," and there is always the possibility that some of the machines entered may prove non-starters. At the moment of writing there is no reason to suppose that any of the entries, with possibly the exception of the Bristol Racer, will fail to be at the starting line, although it is not often that all machines entered for a race actually face the starter. In the case of the Bristol Racer, it is understood that it may be doubtful whether this machine will be finished, tested and tuned up in time to be at Croydon by August 7. It will be realised that a machine with a maximum speed of well over 200 m.p.h. has to be very carefully balanced and in perfect trim before it is safe to fly it across country, and it almost appears as if the necessary tests will not be completed in time. This is all the more regrettable as the Bristol racer is the only machine which can be considered a serious rival of the Gloucestershire Aircraft Company's Mars I, Napier "Lion," to be flown by J. H. James. Thus, if the Bristol fails to start the Derby will, bar mishaps, cease to be a race, except for the handicap flown in connection with it. Naturally such a state of affairs would rob the Derby of most of its interest.

It had been hoped that some of the fast French machines would have been entered, and the Royal Aero Club has done its best to persuade some of the French firms to compete, but without success. In view of the prosperity of the French aircraft industry, and of the fact that machines could easily be flown over from France for the race and flown back again, thus involving but relatively small expense, this is much to be regretted, as a couple of Nieuport "Sesquiplans" and the Hanriot all-metal cantilever monoplane, for instance, would have added enormously to the interest attaching to the Aerial Derby. However, the fact remains that no foreign competitor has been entered at the moment of writing, and unless the Bristol Racer starts the Derby must be a very tame affair.

Fortunately for the visitors, who, it is hoped, will crowd to Waddon on August Bank Holiday, other items have been included in the programme of the meeting, and there should thus be plenty of good flying to watch. The team race for the Air League Challenge Cup, which is at present held by Kenley, should provide quite a good deal of amusement, competitors having to alight and hand batons to other members of their teams, who will then make a circuit and again pass the batons to the last representatives, who will complete the race, the representative first crossing the finishing line securing the Cup for his station.

In addition to the team race there will be a handicap in which all the Derby machines have been entered, plus three other machines, to be flown by Lieut.-Col. Spenser Grey, Major Chris. Draper, and Lieut. Robb respectively. Thus, if all the Derby machines take part, the handicap should include 13 machines, which should be sufficient to provide good sport. We are rather looking forward to seeing James covering two laps of the eight miles course on the Mars I. If he is not to lose too much on the corners he will have to do some vertical banks, and as these short races are always flown at a very low height, spectators should get a very good idea of the speed of this machine.

Major Chris. Draper has promised to give some exhibition flights, and as he is one of the finest exponents of trick flying his performance should be well worth watching.

#### Circuit of Britain for the King's Cup

The regulations governing the circuit of Britain for the Cup presented by His Majesty the King have now been published, and will be found on another page of this issue of FLIGHT. The impetus which will be given to civil aviation by this gracious act on the part of His Majesty must be very great, and it is to be hoped that owners of machines, and others who have the necessary capital to enter machines, will come forward in large numbers and so help to make the race the success it deserves to be. Already, the Duke of Sutherland, President of the Air League, has promised to enter a machine,

and has thus, with others, set an example which we hope many more will follow. As one of the conditions is that machines must be entered by individuals and not by companies, here is an excellent opportunity for wealthy supporters of aviation to come forward and help matters along by entering machines. Up to the present we have had few Mecænates in the aviation world, but the splendid example set by His Majesty can scarcely fail to induce others to give their encouragement, by offering prizes or in other ways. We would suggest that a tremendous amount of good would be accomplished if His Majesty could be induced to be present at Waddon either on the day of the start for the race or the next day to witness the winning of his Cup.

As to the race itself, as this is to be a handicap, all sorts of machines will be admitted, and there appears to be good prospects of a representative list, including many of the modern commercial aeroplanes that are being used on the London-Paris services. There is even a probability of one or two amphibians taking place. The Circuit of Britain which was to have been flown in 1914 had to be abandoned owing to the outbreak of war. That race was, it will be remembered, to have been for seaplanes, and frankly we should have preferred to see the present race flown by this type of machine also. It is, however, unlikely that there are in existence today, under civilian ownership at any rate, a sufficient number of seaplanes to provide the necessary number of entrants, and the decision to make the race an aeroplane contest would, therefore, naturally follow.

At the same time it is regrettable that this country has so far neglected seaplanes that a sufficient number for a race around Britain cannot be found. Even as long ago as 1914 we could muster quite a number of seaplanes, enough for a purely seaplane race, whereas today that does not seem to be possible. There is a warning in this state of affairs which those responsible for our air development would do well to ponder. Probably at least three types of seaplanes, or rather amphibians, will be represented in the Circuit of Britain, and thus, for the first time in our aviation history, we shall see a race in which both aeroplanes and seaplanes are competing.

## RECONSTITUTION OF AIR COUNCIL

An Order in Council, to be published shortly, enacts that the Air Council shall consist of the following members:—

One of His Majesty's principal Secretaries of State, who shall be President of the Air Council.

The Parliamentary Under Secretary of State for Air.

The Chief of the Air Staff.

Air Member for Personnel.

Air Member for Supply and Research.

The Secretary of the Air Ministry.

The main intention of the new Order in Council, which replaces that of October 13, 1920, is to redistribute the business of the Air Council and adapt the organisation of the Air Ministry in such a way as to meet new requirements and increased responsibilities, and in particular to relieve the Chief of the Air Staff of some portions of the detailed administration of the Royal Air Force, which were previously under his direct control.

The main changes are as follows:—

(1) The title of Air Member is given to each of the Members of Council serving in offices held by officers of the Royal Air Force, and the Chief of the Air Staff is described as the first and senior Air Member of Council and principal adviser to the Secretary of State in the direction of the Air Force.

(2) Subject to (1) above, the Air Member for Personnel will be responsible to the Secretary of State for the administration of business relating to the personnel, discipline and organisation of the Air Force, and the Air Member for Supply

and Research (lately Director-General of Supply and Research) will, in addition to the business already allocated to him under the previous Order in Council, be responsible to the Secretary of State for the administration of business relating to the equipment of the Air Force.

The Order also provides, having regard to the recent termination of the post of Controller-General of Civil Aviation, and its replacement by a post of Director of Civil Aviation responsible to the Parliamentary Under Secretary of State, that the Under Secretary of State shall in turn be responsible to the Secretary of State for business relating to Civil Aviation.

The Air Council, as reconstituted, is composed as follows:—

Secretary of State and President of the Air Council,  
Capt. the Right Hon. F. E. Guest, C.B.E., D.S.O.,  
M.P.

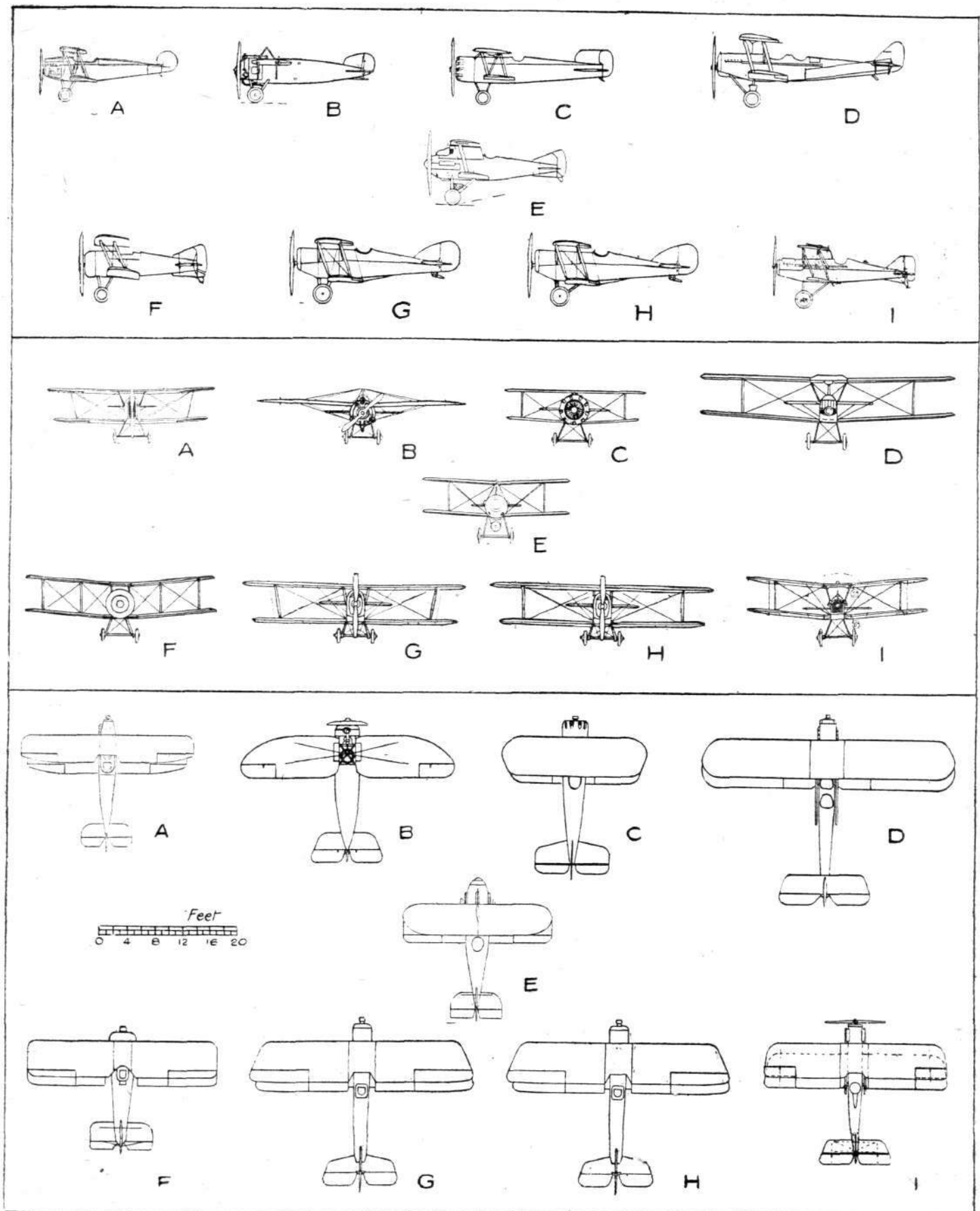
Parliamentary Under Secretary of State and Vice-President of the Air Council—The Right Hon. Lord Gorell, C.B.E., M.C.

Chief of Air Staff and Senior Air Member of Council—Air Chief Marshal Sir H. M. Trenchard, Bart., K.C.B., D.S.O., A.D.C.

Air Member for Personnel—Air Vice-Marshal O. Swann, C.B., C.B.E.

Air Member for Supply and Research—Air Vice-Marshal Sir W. G. H. Salmond, K.C.M.G., C.B., D.S.O., p.s.c.  
Secretary—Sir W. F. Nicholson, K.C.B.

# THE AERIAL DERBY



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**THE AERIAL DERBY AT A GLANCE :** Plan, side and front elevations, to a uniform scale. A, Avro Baby, 35 h.p. Green. B, Bristol Monoplane, 100 h.p. Bristol "Lucifer." C, Bristol "Bullet," 400 h.p. Bristol "Jupiter." D, De Havilland 37, 275 h.p. Rolls-Royce "Falcon." E, Gloucestershire Mars I, 450 h.p. Napier "Lion." F, Gloucestershire Mars III, 200 h.p. B.R. 2. G, Martinsyde F.4, 300 h.p. Hispano-Suiza. H, Martinsyde F.6, 180 h.p. Wolseley "Viper." I, S.E.5A, 200 h.p. Wolseley "Viper."

# AERIAL DERBY AND AUGUST BANK HOLIDAY MEETING

COMPARED with previous years, the list of entrants for the Aerial Derby, which is to be flown over the circuit of London, starting and finishing at Waddon Aerodrome, Croydon, on August 7, is somewhat disappointing. At the time of writing only 10 machines have been entered, and even then it appears somewhat doubtful whether the new Bristol racing monoplane with "Jupiter" engine will be a starter, owing to difficulties in finishing the machine in time.

From the official list, published in the Royal Aero Club Notes on p. 438, it will be seen that the Bristol racer is the only new machine, in the very fast class, entered, and the Derby will be robbed of much of its interest if that fails to start. In fact, barring accidents, "Jimmy" James on the Gloucestershire Aircraft Co. "Mars I," with Napier "Lion" engine, should be a certain winner, as no other machine is within miles of his speed. For the sake of the race it is, therefore, greatly to be hoped that the Bristol racer will be completed and tuned up in time to take part.

The only other new machine entered for the Derby is the De Havilland 37, a very pretty machine built for Mr. A. S. Butler. This machine, however, is a fast touring and sporting three-seater, and is not by any means a racer, although very fast considered as a sporting machine. The rest are all of well-known type, and will be familiar to most readers of this journal. For the benefit of those not intimately acquainted with the history of flying, a brief reference to each of the types entered will be given below.

*The Avro Baby, 35 h.p. Green engine.*—This machine, which is to be flown by Mr. Bert Hinkler, was designed in 1919 by Mr. Roy Chadwick, chief designer of A. V. Roe and Co. Piloted by Maj. Hamersley it won the sealed handicap flown in conjunction with the Aerial Derby of 1919. Later a similar machine was flown by Bert Hinkler from London to Turin, non-stop, one of the finest performances in the history of flying, considering the low power of its Green engine. Mr. Hinkler then took a Baby out to Australia, and there made another non-stop flight, this time of close upon 900 miles. It will thus be seen that the Avro Baby is one of the most remarkable machines ever built, and the reliability of its 35 h.p. Green engine has been proved repeatedly.

*The Bristol Monoplane, 100 h.p. "Lucifer" engine,* was designed by Capt. F. S. Barnwell during the war. Originally it was fitted with a rotary engine, but when the Bristol Aeroplane Co. took over the Cosmos engines, and the three-cylinder 100 h.p. "Lucifer" was developed, the monoplane was fitted with this engine. The machine has been flown in public by Mr. C. F. Uwins, chief pilot of the Bristol Aeroplane Co., on several occasions, and has always given a very favourable impression. The smooth running of the "Lucifer," considering it has but three cylinders, has been remarked upon, and the machine itself, with its crescent-shaped monoplane wings, is of very pretty lines. In the Derby the monoplane will be flown by Mr. L. L. Carter.

*The Bristol "Bullet," 400 h.p. Bristol "Jupiter" engine,* was also designed by Capt. Barnwell, who was, until about a year ago, chief designer to the Bristol Aeroplane Co. This machine has also appeared in several races, piloted by Mr. Uwins, but has not been fortunate enough to win any big race. In last year's Aerial Derby this machine was second, while in the Derby of 1920 it came in third. If the Bristol racing monoplane fails to start, the "Bullet" will be the only rival James has to contend with, and it is unlikely that it will prove a serious competitor for first place in the Derby, although it is very much faster than any of the other machines entered. The 400 h.p. Bristol "Jupiter" was the first radial air-cooled engine of high power to pass the Air Ministry type tests, and lately the French rights have been acquired by the Gnome and Rhone Co., so that the "Jupiter" will probably be constructed in considerable numbers in France. In the Derby the "Bullet" will be flown by Mr. R. A. de H. Haig.

*The Bristol Monoplane Racer, 400 h.p. Bristol "Jupiter" engine.*—This machine is the "dark horse" of this year's Derby. Designed by Mr. Reid, who has succeeded Capt. Barnwell as chief designer of the Bristol Aeroplane Co., this racer has been credited with tremendous speeds. As the testing and tuning up of such a fast machine is naturally a delicate matter, there is considerable doubt as to whether the machine will be finished, tested and tuned up in time for the Derby. As to the actual design, little information is available beyond the fact that the machine is stated to be a monoplane, fitted with the famous Bristol "Jupiter" engine. We understand that a retractable undercarriage is fitted, which should add a good many miles to the speed of the machine. Owing to the fact that the "Jupiter" is of

large diameter, a fairly big fuselage is required to streamline it, and this, of course, affords a good opportunity of providing space for tucking away the undercarriage inside the body when the machine is in flight. A similar arrangement was, it may be remembered, employed in the Dayton-Wright monoplane which was entered for the Gordon-Bennett race at Etampes. If a starter, the Bristol Racer will be flown by Mr. C. F. Uwins, chief test pilot of the Bristol Aeroplane Co.

*The De Havilland 37, 275 h.p. Rolls-Royce "Falcon" engine.*—As already mentioned, this machine was designed and built by the De Havilland Aircraft Co. for Mr. A. S. Butler as a fast touring and sporting machine. At present Mr. Butler has the distinction of being the only private owner-pilot in this country, and his very sporting support of aviation, in the form of purchasing and piloting his own private machines, is an example which other wealthy sportsmen might well follow. It will be remembered that Mr. Butler some years ago bought a Bristol "Tourer" with Siddeley "Puma" engine, on which he did a lot of touring, and also took part in last year's Aerial Derby. His mount this year is a good deal faster, and although not a racing machine the new D.H.37 should put up a very good show.

As regards the machine, it is a three-seater tractor biplane of orthodox design, but incorporating many detail improvements to which space does not allow of referring here. The D.H.37 is fitted with a Rolls-Royce "Falcon" engine, the only one in the race, and for that reason, no less than on account of the fact of it being a new design, the performance of the D.H.37 will be watched with interest. The speed is over 120 m.p.h. with full load. Presumably Mr. Butler will not carry any passengers in the race.

*Gloucestershire Aircraft Co. "Mars I," 450 h.p. Napier "Lion" engine.*—With a maximum speed of somewhere in the neighbourhood of 200 m.p.h., the "Mars I," which is to be flown by Mr. J. H. James, should be a certain winner if the Bristol Racer does not turn up, no other machine being within 20 m.p.h. of its speed. The "Mars I," which was the winner of the Derby last year, is already so well known as to require no introduction to FLIGHT readers. Designed by Mr. H. P. Folland, chief engineer and designer of the Gloucestershire Aircraft Co., the "Mars I" is unusual chiefly on account of the placing of the tank, which rests on the top of the fuselage and extends right up to the top plane. This machine, with its Napier "Lion" engine, is the holder of the British speed record of 196 m.p.h., and since establishing that speed the machine has been considerably cleaned up.

*The Gloucestershire Aircraft Co. "Mars III," 200 h.p. B.R.2 engine.*—Also designed by Mr. Folland, the "Mars III" is similar to the famous Nieuport "Nighthawk" designed by Mr. Folland, while he was chief engineer to the British Nieuport firm, except that the "Mars III" has a B.R.2 rotary engine of 200 h.p. in place of the A.B.C. "Dragonfly" of the "Nighthawk." The machine, which is a two-seater training 'bus, will be flown by Mr. L. R. Tait-Cox.

*Martinsyde F.4, 300 h.p. Hispano-Suiza engine.*—This machine was designed by Mr. G. H. Handasyde during the latter part of the war as a high-performance single-seater fighter. Owing to the Armistice the machine was not built in large quantities, but several machines are in existence, the present one being entered by the Aircraft Disposal Co. It is to be flown by Capt. Rex Stocken, of the A.D.C.

*The Martinsyde F.6, 180 h.p. Wolseley "Viper,"* which is being flown by Mr. F. P. Raynham, is very similar in appearance to the F.4, but has a smaller engine and differs from the F.4 in certain minor details. Like the F.4, it was designed by Mr. Handasyde before he severed his connection with the Martinsyde firm and established as a separate company the Handasyde Aircraft Co. The performance of the machine in the race will be interesting chiefly because it is being flown by Mr. Raynham, who is one of the very earliest British pilots, and certainly the oldest pilot (as regards number of certificate) flying in the Derby.

*The S.E.5a, 200 h.p. Wolseley "Viper" engine.*—Designed at the Royal Aircraft Establishment at Farnborough during the war, the S.E.5a was at one time a favourite single-seater fighter. Incidentally, it might be mentioned that Mr. Folland also had a hand in designing this machine, being at that time on the designing staff of the R.A.E. Mr. Folland thus appears to have more machines in the race than any other designer. The S.E.5a which is to be flown in the Derby by Mr. H. H. Perry, has been entered by the Aircraft Disposal Co.

The following table shows the winners of previous Aerial Derbys, and the times made by them. It is interesting to

see how the speeds have increased from year to year, the greatest jump being made at the first Derby after the war:—

#### Winners, Distances and Speeds of Previous Derbys

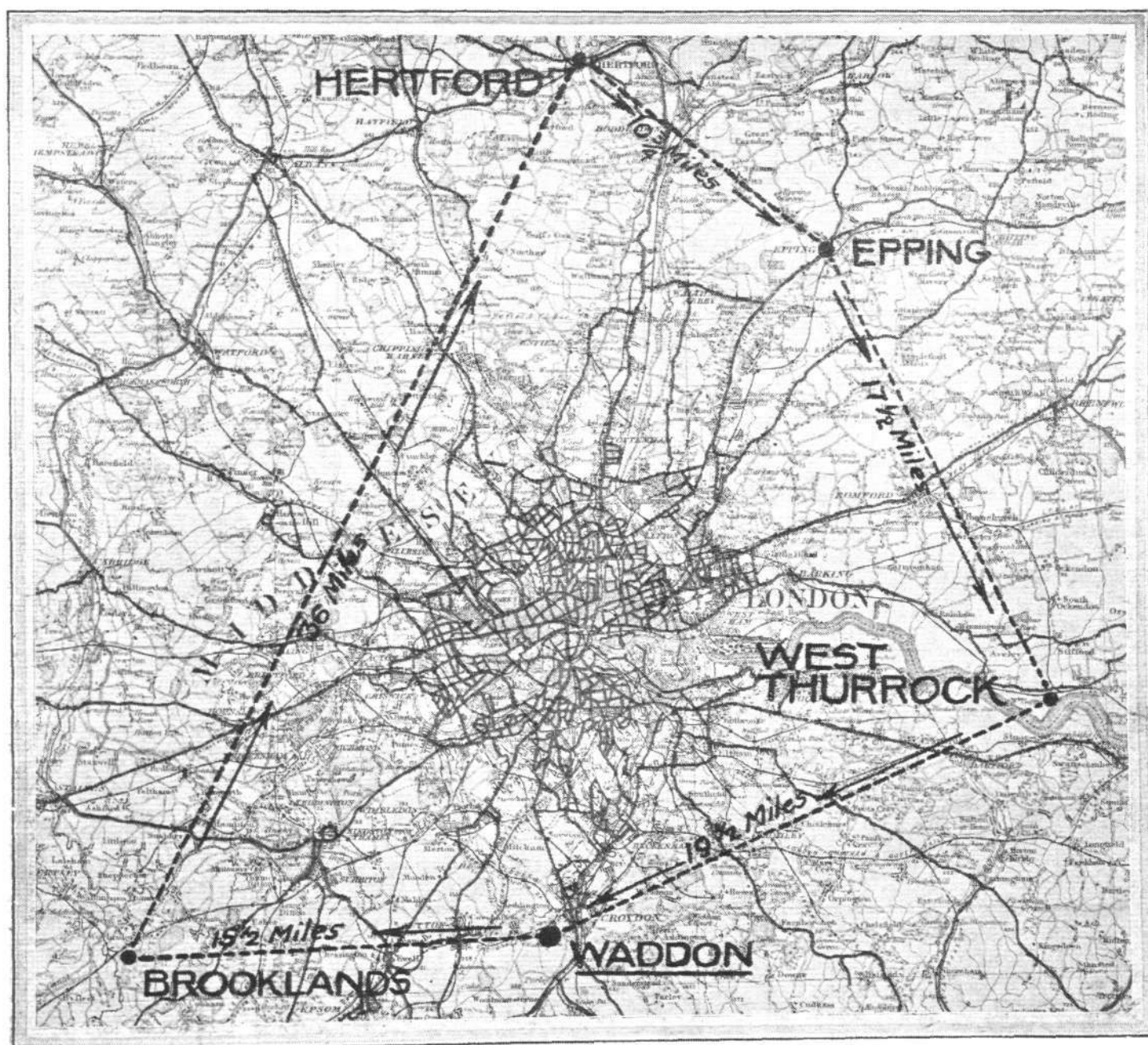
Date.	Winner.	Machine.	Distance. Miles.	Speed. M.p.h.
June 8, 1912	T. O. M. Sopwith	70 h.p. Gnome-Blériot Mono.	81	58.5
Sept. 8, 1913	Gustav Hamel	80 h.p. Gnome-Morane-Saulnier Mono.	94.5	74.7
June 6, 1914	W. L. Brock	80 h.p. Gnome-Morane-Saulnier Mono.	94.5	71.8
June 21, 1919	G. Gathergood	450 h.p. Napier-Airco 4R	94.5	129.3
July 24, 1920	F. T. Courtney	300 h.p. Hispano-Suiza Martinsyde	205	153.4
July 16, 1921	J. H. James	450 h.p. Napier-Gloucestershire Mars I	205	163.3

#### Other Events

In addition to the Aerial Derby two more races are being flown at Waddon on August 7. One of these is a relay race for the Air League Challenge Cup, presented by Maj.-Gen. Sir Sefton Brancker, Director of Civil Aviation, which is being contested for by the present holders, the R.A.F.,

Kenley, and by the R.A.F., Uxbridge. The machines to be used are four S.E.5a's lent by the Aircraft Disposal Co., and two of the Aero Club Avros. One representative of each team will be started off on S.E.'s and make a circuit. On landing they will hand a baton to two representatives on Avros, who will then make a circuit and land, handing the batons to the last two representatives on S.E.'s, who will make the last circuit (of 8 miles), the first man home being the winner. This race should provide quite good sport, and help to keep visitors interested while the Derby is being flown. The second race is the August Open Handicap, and is for the Derby machines plus three more entries. It consists of two circuits of the 8 miles course. In addition Maj. Chris. Draper will give demonstration flights. Those who had the good fortune to see him flying the B.A.T. "Bantam" at the Elta show will know what to expect.

For the information of such visitors as do not run their own motor conveyance, it may be mentioned that one can reach the Waddon aerodrome by taking train to Waddon station from Victoria, special trains being put on for the occasion. From Waddon station it is but a few minutes' walk to the aerodrome. An alternative route is by bus from Piccadilly Circus to West Croydon, getting off outside West Croydon station and taking a Sutton tram to Plough Lane. The first of the machines flying in the Derby should be started about 2 p.m. The gates will be opened at 1 p.m., and luncheons will be procurable in the enclosures from the time of opening the gates.



[.] Reproduced from the Ordnance Survey Map with the Sanction of the Controller of H.M. Stationery Office.

THE AERIAL DERBY, AUGUST 7: Map of the course. The circuit this year is a right-hand one, Brooklands being the first turning point.

# THE ROYAL AERO CLUB OF THE U.K.

## OFFICIAL NOTICES TO MEMBERS

AUGUST BANK HOLIDAY, MEETING AT WADDON  
AERODROME, MONDAY, AUGUST 7, 1922

### AERIAL DERBY, 1922

Entrant.	Pilot.	Machine and Engine.
Aircraft Disposal Co., Ltd.	Capt. R. H. Stocken	Martinsyde F.4 (300 h.p. Hispano-Suiza).
Aircraft Disposal Co., Ltd.	H. H. Perry	S.E.5a (200 h.p. Wolseley "Viper")
Gloucestershire Aircraft Co., Ltd.	J. H. James	Mars I (450 h.p. Napier "Lion").
Gloucestershire Aircraft Co., Ltd.	L. R. Tait-Cox	Mars III (200 h.p. B.R.2).
Bristol Aeroplane Co., Ltd.	L. L. Carter	Lucifer Monoplane (100 h.p. "Bristol" Lucifer).
Bristol Aeroplane Co., Ltd.	R. A. de H. Haig	"Bristol" Bullet (400 h.p. "Bristol" Jupiter).
F. P. Raynham	F. P. Raynham	Martinsyde F.6 (180 h.p. Wolseley "Viper").
A. S. Butler	A. S. Butler	D.H.37 (275 h.p. Rolls-Royce "Falcon").
A. V. Roe and Co., Ltd.	Bert Hinkler	Avro Baby (35 h.p. Green).
Bristol Aeroplane Co., Ltd.	C. F. Uwins	Monoplane Racer (400 h.p. "Bristol" Jupiter).

### AIR LEAGUE CHALLENGE CUP

Presented by Maj.-Gen. Sir Sefton Brancker, K.C.B., and Mr. Philip S. Foster.

(Holders—Royal Air Force, Kenley)

The race for 1922 will be a Relay Race between the following teams from the Royal Air Force at Kenley and Uxbridge:—

#### Royal Air Force, Kenley

Flight-Lieut. James M. Robb, D.F.C.	..	..	S.E.5a.
Flight-Lieut. Roy W. Chappell, M.C.	..	..	Avro.
Flight-Lieut. Francis L. Luxmoore	..	..	S.E.5a.

#### Royal Air Force, Uxbridge

Flight-Lieut. Walter H. Longton, D.F.C., A.F.C.	..	..	SE 5a.
Flying Officer Frank G. Gibbons, D.F.C.	..	..	Avro.
Squadron-Leader Frank L. Robinson, D.S.O., M.C., D.F.C.	..	..	S.E.5a.

The race is over a distance of approximately 24 miles, being three laps of the circuit of approximately 8 miles.

One representative of each team will start together in S.E.5a aeroplanes. At the end of the first lap they will land

on the aerodrome, hand a baton to a second representative of each team, who will then fly the second lap in Avro aeroplanes. At the end of the second lap, the second representative of each team will land on the aerodrome and hand the baton to the third representative of each team, who will then fly the third lap in S.E.5a aeroplanes.

On completing the third lap the aeroplanes will cross the finishing line in flight.

The winning team will be the one whose representative, having properly completed the course, is the first to cross the finishing line.

(The S.E.5a aeroplanes in this race have been kindly loaned by the Aircraft Disposal Company, Ltd.)

### AUGUST OPEN HANDICAP (16 miles)

Prizes: 1st, £30; 2nd (if five or more starters), £10. Open to all types of aeroplanes.

The race is over a distance of approximately 16 miles, being two laps of the circuit—Waddon Aerodrome, Purley Downs Golf Club and Beddington Cement Works.

The handicap allowances will be announced on the Event Board. Each competitor will be started at his handicap time, and the winner will be the competitor who, having properly completed the course, is the first to cross the finishing line in flight.

Pilot.	Aeroplane and Engine.
Capt. R. H. Stocken..	.. Martinsyde F.4 (300 h.p. Hispano-Suiza).
H. H. Perry ..	.. S.E.5a (200 h.p. Wolseley "Viper").
J. H. James ..	.. Mars I (450 h.p. Napier "Lion").
L. R. Tait-Cox ..	.. Mars III (200 h.p. B.R.2).
L. L. Carter ..	.. "Lucifer" Monoplane (100 h.p. Bristol "Lucifer").
R. A. de H. Haig ..	.. Bristol "Bullet" (400 h.p. Bristol "Jupiter").
F. P. Raynham ..	.. Martinsyde F.6 (200 h.p. Wolseley "Viper").
A. S. Butler ..	.. D.H.37 (275 h.p. Rolls-Royce "Falcon").
Bert Hinkler ..	.. Avro Baby (35 h.p. Green).
C. F. Uwins ..	.. Monoplane Racer (400 h.p. Bristol "Jupiter").
Flight-Lieut. Walter H. Longton, D.F.C., A.F.C.	.. S.E.5a (200 h.p. Wolseley "Viper").
Lieut.-Col. D. A. Spenser Grey	.. Avro (110 h.p. Le Rhone).
Flight-Lieut. James M. Robb, D.F.C.	.. S.E.5a (200 h.p. Wolseley "Viper").
Maj. C. Draper ..	.. Avro (110 h.p. Le Rhone).

Exhibition Flights by Maj. C. Draper, D.S.O.

Offices: THE ROYAL AERO CLUB,  
3, CLIFFORD STREET, LONDON, W. 1.  
H. E. PERRIN, Secretary.

## THE LONDON-CONTINENTAL SERVICES

### FLIGHTS BETWEEN JULY 23 AND JULY 29, INCLUSIVE

Route†	No. of flights*	No. of passengers	No. of flights carrying		No. of journeys completed†	Average flying time	Fastest time made by	Type and (in brackets) Number of each type flying
			Mails	Goods				
Croydon-Paris ...	59	194	21	42	59	2 35	D.H. 34 G-EBBR (1h. 52m.)	B. (5), D.H. 9 (1), D.H. 16 (1), D.H. 18 (1), D.H. 34 (4), G. (6), H.P. W.8B (3), Sp. (2), Vu. (2).
Paris-Croydon ...	60	102	9	36	59	3 1	D.H. 34 G-EBBQ (2h. 7m.)	B. (5), D.H. 9 (1), D.H. 16 (1), D.H. 18 (1), D.H. 34 (4), G. (7), H.P. W.8B (4), Sp. (3) Vu. (1).
Croydon-Brussels ...	12	42	7	11	12	2 23	Vulcan G-EBBL (2h. 11m.)	D.H. 18 (1), D.H. 34 (2), Vu. (3), W. (1).
Brussels-Croydon ...	12	30	—	6	12	2 58	D.H. 34 G-EBBR (2h. 13m.)	D.H. 16 (1), D.H. 18 (1), D.H. 34 (3), Vu. (2), W (1).
Croydon-Rotterdam-Amsterdam.	12	12	12	12	12	2 27½	Fokker H-NABS (2h. 12m.)	F. (6).
Amsterdam-Rotterdam-Croydon.	13	8	12	12	13	2 53½	Fokker H-NABH (2h. 30m.)	D.H. 9 (1), F. (6).
Totals for week.	168	388	61	119	167			

## AIR CIRCUIT OF GREAT BRITAIN

For the King's Cup, which has been presented by His Majesty The King for a circuit of Great Britain by aeroplane, a number of entries have already been promised, including the following:—

The Duke of Sutherland (President of the Air League).  
 Lieut.-Col. Frank K. McClean (Vice-Chairman of the Royal Aero Club).  
 Sir Samuel Instone (Instone Air Line).  
 Sir Henry White Smith (Bristol Aeroplane Co., Ltd.).  
 A. V. Roe (A. V. Roe and Co., Ltd.).  
 H. Scott-Paine (Supermarine Aviation Works).  
 A. S. Butler (de Havilland Aircraft Co.).  
 Brig.-Gen. J. G. Weir, C.M.G. (J. and G. Weir, Glasgow).  
 Col. M. O. Darby (Aircraft Disposal Co., Ltd.).  
 F. P. Raynham.

In addition to the above, Boulton and Paul, Ltd., of Norwich; Armstrong-Siddeley Motors, Ltd., Coventry; Gloucestershire Aircraft Co., Cheltenham; Aircraft Disposal Co., Ltd., Croydon; Handley Page Transport Co., Croydon; Fairey Aviation Co., Hayes; and Short Bros., of Rochester, are preparing machines for the race.

The race will be a handicap under the Competition Rules of the Royal Aero Club, and the King's Cup will be awarded to the entrant of the aeroplane which first completes the circuit of Great Britain of approximately 850 miles under the following conditions:—

### Supplementary Regulations

**Date.**—The race will commence on Friday, September 8, 1922.

**Organisation.**—The race shall be conducted by the Royal Aero Club under the Competition Rules of the Royal Aero Club.

**Competitors.**—The entrant and pilot or pilots must be British subjects. The entrant must be an individual and not a company.

**Aeroplane.**—The aeroplane, including the engine or engines, must have been entirely constructed in the British Empire.

**Entries.**—The entry fee is £25. This fee, together with the entry form, must be received by the Royal Aero Club, 3, Clifford Street, London, W. 1, not later than 5 p.m. on Monday, August 28, 1922.

All entry fees received will be applied towards payment of the expenses of the Royal Aero Club in conducting the race. Any balance not so expended will be refunded *pro rata* to the entrants.

**Air Navigation Regulations.**—Competitors must comply with the Air Navigation Regulations in force.

**Course.**—The course will be approximately 850 miles, starting and finishing at Waddon Aerodrome, Croydon, with controls at several large towns in England and Scotland. The course will be divided into two sections to be completed on two consecutive days, the sections being divided into stages by the controls.

**Controls.**—The controls at which competitors must land

will be communicated later, together with a schedule of the minimum time that competitors must stay at each control.

The time of arrival at each control will be taken at the moment of crossing a line between two marks on the ground. This line must be crossed at a height of not more than 500 ft.

**Handicap.**—The aeroplanes will be handicapped on a time allowance basis for the complete circuit, and a proportion of the total handicap will be allotted to each section.

**Starting.**—Competitors will be started from Waddon Aerodrome, Croydon, in accordance with the proportion of their handicap allotted for the first section, and will be timed from the given signal to start. At the end of the first section the aeroplanes will be housed for the night.

Competitors will be started on the second section in accordance with the proportion of their handicap allotted for that section, plus or minus the time gained or lost on their handicap for the first section.

Each competitor and his aeroplane must be on the starting line 15 minutes before his official time of starting. Should any competitor fail to start within five minutes of his being given the signal to start by the official starter, he must remove his aeroplane from the starting line, if and when so ordered, and shall only be allowed to start with the sanction of the official starter. His time shall be taken as from the original signal to start.

**Landings.**—Landings between the controls are allowed.

**Time Cards.**—Each competitor before starting will be supplied with a time card, on which will be entered his time of arrival and starting time from each control. The competitor is alone responsible for the safe custody of his card, and for its being produced and entered up at each control, and for the production of same when duly called upon.

Landings, repairs and alterations, and any change of personnel, must be entered on the time card.

**Repairs.**—Individual replacements and repairs to the aeroplane and engine may be made, but neither must be changed as a whole. Any repairs or adjustments must be carried out by the pilot and/or crew.

**Verification of Aeroplanes.**—Aeroplanes must be at Waddon Aerodrome, Croydon, completely erected not later than 10 a.m. on Wednesday, September 6, 1922, for verification by the officials. Any competitor not having his aeroplane ready for presentation to the officials by the specified time will render himself liable to exclusion from the race.

**Pilot and Crew.**—The pilot and/or crew must not be changed during the race, except in the event of a special emergency, and then only at a control with the consent of the official at the control.

**Spare Parts.**—Only such spares are permitted as are carried in the aeroplane.

**Labour.**—Labour will be provided at each control to man-handle the aeroplanes and swing the propellers.

The Committee of the Royal Aero Club reserves to itself the right to add to, amend, or omit any of these rules should it think fit.

## NOTICES TO AIRMEN

### Isle of Sheppey : Danger Area.

AERIAL gunnery and bombing targets have been established on the shore and in the sea in the vicinity of Leysdown Aerodrome on the east side of the Isle of Sheppey. The position is approximately in latitude 51° 24' N. and longitude 0° 56' E. (see map published with Notice to Airmen No. 51 of 1922).

Firing and bomb dropping on these targets takes place at frequent intervals. Pilots are warned, therefore, that it is dangerous to fly over this area at an altitude lower than 3,000 feet.

No warning signals to aircraft are displayed, but red flags are flown on the shore near the targets as a warning to the public and shipping. (No. 73 of 1922.)

### Pilots' Licences (Class "B") : Extension of Licences to Cover Further Types of Flying Machines

WITH reference to paragraph 61 of the Air Navigation Directions, 1922 (A.N.D.3), Pilots holding licences for flying passenger or goods flying machines, who desire the extension of their licences to cover a further type of machine, will be required to carry out satisfactorily the following flying tests on the type for which the extension is required:—

1. Three "take-offs" and "landings" with machine "light."

2. Three "take-offs" and "landings" with full load.

They will further be required to show by an oral examination that they have a practical knowledge of the flying machine for which the extension is required, particularly with regard to the installation of the engine(s) and the functioning of the petrol, oil and water systems.

In the case of pilots employed at or flying from the London Terminal Aerodrome, Croydon, the flying tests will be observed by the Civil Aviation Traffic Officer, and the examination in flying machine and engine(s) will be carried out by the staff of the Aeronautical Inspection Directorate.

On satisfactory completion of flying tests and technical examination the Civil Aviation Traffic Officer will make the necessary extension of the licence.

Applications for observation of flying tests and for technical examination should be made to the Civil Aviation Traffic Officer when required.

In the case of pilots who are unable to attend at Croydon for flying tests and technical examination other arrangements will be made on application to the Secretary (D.C.A.), Air Ministry.

These arrangements will come into operation on August 1, 1922.

(No. 82 of 1922.)

# THE DE HAVILLAND AEROPLANE HIRE SERVICE

Flying for Less than Taxi Fares

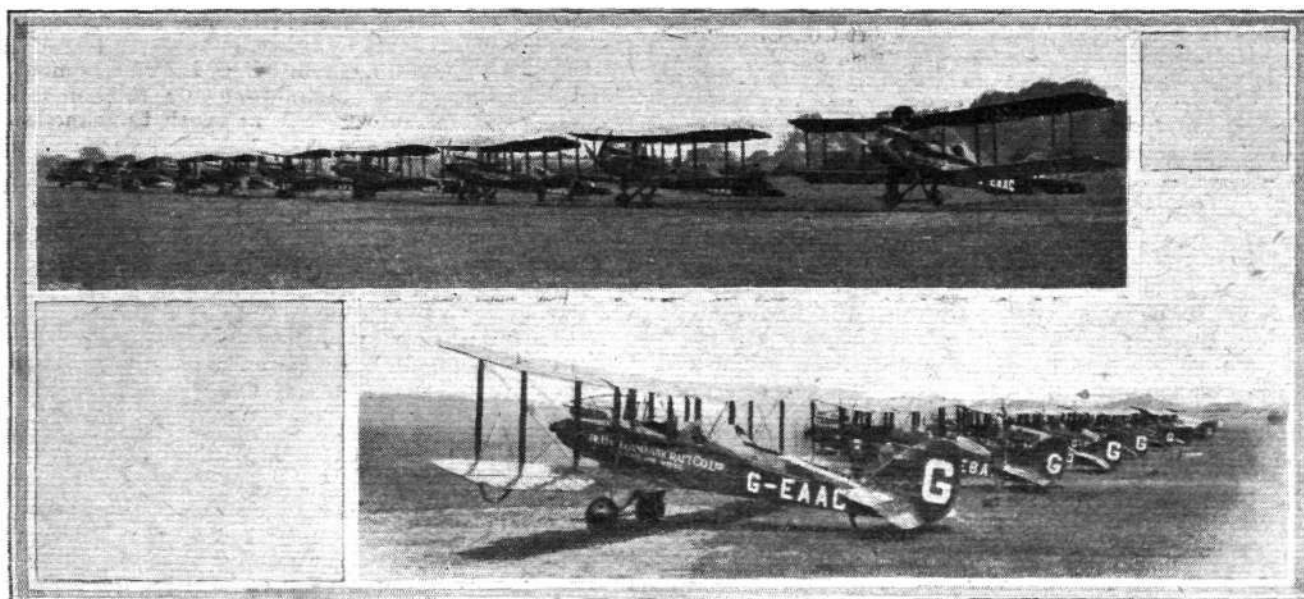
In these days of subsidised uncommercial flying, it is gratifying to discover that a great deal of non-subsidised flying is being done. Not only so, but actually such flying is done entirely as a commercial proposition, and, most important of all, is paying its way. For a considerable time, the De Havilland Aircraft Co., Ltd., of Stag Lane Aerodrome, Edgware, Middlesex, has had in operation a number of machines, ready at short notice, for flights to anywhere. When first started, there was some doubt as to whether the "air taxi" could be made to pay at charges which would be likely to appeal to the public. These doubts have been set at rest long ago, and the De Havilland Aeroplane Hire Service has been established quite independently of the main firm.

At present there are ten machines available for hire, mostly of the "D.H.9C" and "D.H.16" limousine types. Although these may be said to be merely converted war types, they have proved themselves capable of doing very good

themselves of the opportunity to use the air taxis, that the entire "stable" is generally fully occupied.

It might be mentioned that during June more than 20,000 miles were covered by the machines of the De Havilland Hire Service, flying on a variety of errands. At present a newspaper service is being maintained between Lympne and Ostend, the machines leaving early in the morning. The starting point was transferred to Lympne on account of its relative freedom from early morning mists, from which Croydon suffers rather badly.

The uses to which the air taxis are being put are so varied that it is impossible for us to do more than indicate a few. The famous long flights made by Mr. Cobham are already so well known that we need not elaborate the subject here. Flights for newspapers, carrying photographers or conveying photographs, are almost daily occurrences, while on three occasions lately, it has been possible for passengers who had



THE DE HAVILLAND AEROPLANE HIRE SERVICE : Line-up of the ten machines which at present constitute the "stable."

commercial work, and the rates at which they are to be hired are such that, with full load, the cost is but very slightly greater than that charged by "approved" companies on the London-Paris route. Thus the "D.H.9C," which has accommodation for three passengers, two of whom are seated in a small cabin, can be hired at an inclusive rate of 2s. per mile, or £8 per flying hour. With full load of three passengers the cost therefore works out at the surprisingly low figure of 8d. per passenger per mile, or less than taxi fare.

The "D.H.16," which has a limousine body, seats four passengers, and can be had for 2s. 6d. per mile, or £11 per flying hour, which is even more economical. If the machines are required for goods, the former has a capacity of 650 lbs., while the latter carries 800 lbs. The distance from Croydon to Paris is about 240 miles, so that a machine may be hired from this firm for the journey at an inclusive fee per passenger of £8, as against the £6 6s. charged by the regular air lines. In view of the fact that, by hiring a machine, one is not limited to either route or destination, this fee is certainly remarkably low, and it is not surprising that so many avail

missed their train from London to Southampton to get to the latter port in time to catch liners which would otherwise have been missed.

Tours through Belgium and Northern France, seeing the battlefields from the air, are popular with tourists, and as the only stipulation is that machines must alight at certain aerodromes for customs on entering a country, and the passengers have their passports in order, this method of touring is delightfully free from worrying formalities, not to mention the comfort of the journey itself as compared with hours spent in stuffy trains.

Owing to the large demand for machines during the summer months, it is as well to order as long in advance as possible, although it is often possible to get a machine, even for an extended tour, at a few hours' notice, by writing, telegram, or telephone to the company.

The address of the De Havilland Hire Service has already been given. The telephone number is Kingsbury 160-161, and the telegraphic address "Havilland, Edgware." All enquiries are promptly dealt with.

## Germany's Reply to Restrictions

FROM Berlin it is reported that the German Government has sent a note to Denmark, Norway, Sweden, Holland and Switzerland informing the respective Governments that only aeroplanes conforming with the restrictions placed upon German aircraft will be permitted to cross the German frontier. This is a clever move on the part of the German Government, and obviously intended to reduce the handicap which the restrictions of the Allies places upon German civil flying. If any of these countries wish to run services into Germany they can now only do so by using machines of as low power and fuel capacity as those to which the Germans themselves are restricted.

## Giant French Flying Boat under Test

At the last Paris Aero Show was exhibited by Marcel Besson a scale model of a huge quadriplane flying boat, which was then stated to be in course of construction. Reference to this machine was made on p. 776 of our issue of November 24, 1921, in our report on the Paris Show. The machine is now stated to be at St. Raphael undergoing tests. The arrangement of the wings is unusual, the four planes being arranged as two biplanes, of which one set is staggered in relation to the other. The strutting is of X formation. The cabin is a separate unit from the boat hull. The dimensions are: Span, 95 ft.; length, 69 ft.; height, 23 ft.; and wing area, 2,750 sq. ft.

# AIR FORCE AND THE NAVY IN THE LORDS

A DISCUSSION of some moment took place in the House of Lords on July 27, in response to a question to the Under-Secretary of State for Air by the Marquess of Londonderry. The Marquess asked whether the Government realised the anxiety of the nation with regard to the alleged deficiencies of the Air Service in all its branches, especially with regard to its naval and home defence sides, and whether he was in a position to make a statement. It was imperative, he said, that there should be real co-ordination between the three arms of the Service. He had recently noticed that a journalistic war was being waged against the Air Ministry. He did not know how far it had disturbed the Air Minister. The criticism as usual, in his opinion, was intended to injure the Government rather than benefit the Air Service. He hoped the Government would be able to tell their lordships of the relative importance of the three arms of the Service. The arguments in favour of a separate Air Force appeared to him overwhelming, and he did not want the Air Force unduly developed at the expense of the Navy or Army, or *vice versa*. But he wanted the money that would be necessary to allocate to the Services apportioned with a close regard to the actual services which each arm could render. There was the question of civil aviation, and its bearing on the fighting Service—how far civil aviation could be the reservoir in time of war for the Air Service. How much would it cost to raise a large reserve through the instrumentality of civil aviation? Would it be less costly than providing regular squadrons?

Lord Montagu of Beaulieu thought the Air Ministry had been unjustly attacked by some of its critics for not doing certain things for which it had not the money. He had never seen any reason to change his opinion that an independent Air Ministry and Air Service were vital to the country. As time went on he thought there was more reason for maintaining that separate Air Service. A terrible attack from the air would be the first sign of war in the future, and the Navy and the Army would not be able to ward it off. It was absolutely vital that we should have an independent Air Force, continue the Air Ministry, and regard it more and more as our first line of defence. Air Service training was a thing quite apart from any other form of training. The idea that they could take a naval officer or a military officer for a time and then return him to his Service was a fallacy. They must get the air officer young and keep him as long as they could. He supported the request made by the noble marquess. He considered that the Air Ministry had done extremely well, considering the limited means at its disposal.

Lord Sydenham said there might have been exaggerations in the Press, but he thought the anxiety which the public had felt on this subject had been fully justified. The present position was dangerous and deplorable. Though it was probable there would be no great war for several years, only dreamers believed wars were at an end. The Navy would be incomplete and handicapped if it were not provided with an adequate Air Force thoroughly trained at sea. It must be an integral part of the Navy. The Admiralty ought to be responsible for the strength and efficiency of its own air branch.

Viscount Long said he became convinced in the early stages of the Conferences in 1919-1920 that the proposal to set up an Air Ministry with absolute control of the Air Force of either the Army or Navy, or both, was doomed to failure. If they were to secure both efficiency and economy they must have an Air Force which was part of the naval system under the control of the Navy and run by them. They needed a review of the whole situation, naval, military, and air. He hoped the Government would not commit themselves immediately to the final adoption of the plan now working. We must have an Air Ministry, for which there was plenty of work. It must have charge of the selection of types of flying machine, the purchase of materials and construction. But the Navy must be responsible for its own Air Force, have full control over it, and its cost should be a part of the Navy Estimates.

Lord Gorell, Under-Secretary of State for Air, said the Marquess of Londonderry had stated that the Air Ministry had been suffering under a journalistic war. He would not go quite so far as that. There had been a very great deal of attention paid to the whole question of air power lately, and that was a very hopeful sign. Some of the criticism had been of great assistance. The great bulk of it had been very uninformed. There was no doubt that in certain quarters, there had been deliberate misrepresentation. He was asked only the previous day by a friend of his why it was that certain journals seemed to have been inspired by personal animus in their attacks on the Air Ministry. He gave then the reason

he would give their lordships, that there were certain journals controlled by Lord Rothermere, who was, for a short time, in charge of the Air at the Hotel Cecil, and whilst there was in daily contact with our present Air Marshal—who was certainly distinguished for saying frankly and straightforwardly what he thought. It might be presumed that that straightforwardness and frankness might have ruffled Lord Rothermere, and that he was not now able to forget and take a wider than the personal view.

In October last year he went very fully into the cost of a separate Ministry. He attempted then to show that so far as cost could be estimated at all, a separate Air Ministry was less costly than two Services would be, and no answer had been given to the figures he gave. The first question of the noble marquess he could answer quite definitely. There was, undoubtedly, now a great potential menace from the air. If there should be unhappily in the future an outbreak of a great war, we could confidently rely upon the air playing a very much greater part than it did in the last war. It was probable that the raiding would be continuous on docks, factories, food depots, and on mobilisation places, and that called, undoubtedly, for a revision of our ideas. It was fairly obvious that it would be the endeavour of every belligerent Power to put out the maximum of air effort in the very first days of the war. There was a considerable divergence of view as to whether the menace from the air was greater than that from the sea. It must to some extent be hypothetical.

Except for the fact that the German Fleet was at the bottom of the sea the old menace remained, and one could go no farther in any claims in regard to the air than to say that to the old menace had been added this great and almost unknown new menace. Nothing that land or sea forces could do could prevent this menace from the air. All he could say about the allocation of funds was that the question had been before the Committee of Imperial Defence for a long time, and they were carefully considering the matter. They had seen and heard in the Press comparisons between the air power of this country and the air power of France. Did anyone who had had experience of the past war regard the air power of France as a menace to this country? He absolutely refused to believe the word "menace" in that connection. Our strength and that of the French would, if necessary, maintain peace and establish it.

Having dealt with the distribution of our air squadrons, he said as regards ground organisation during the war, it took 86 men on the ground to keep one machine in commission in the air. That number had been considerably reduced, but it must always be large. As to the cost of squadrons, the total estimated expenditure on the Royal Air Force, including India, for 1922-23, was £15,177,500, for 32 squadrons, which was roughly £474,300 each. If they added 20 squadrons at home to these, the total cost would be £17,227,000 for 52 squadrons, and the cost per squadron would be roughly £331,300. If the number was increased to 100 squadrons, the total cost would be £24,000,000, or £240,000 per squadron. So that the larger the organisation was, the less relatively the overhead charges were.

After defending the policy of the Ministry in regard to buildings, he dealt with the relations of the Air Force and the Navy. There were in co-operation with the Navy, employed on reconnaissance, spotting, torpedo-carrying, and bombing, 62 machines, and in training, etc., 21, a total of 83. In addition, there were reserve machines to cover replacement 46, and reserve in store 229, giving a total of 275, making a grand total of 358 machines. As to the Army, there had been definitely allotted 28 machines, and there were 45 units upon which the Army could call for co-operation, while an addition of 18 units were available in urgent circumstances, and 20 for training, making a total of 111. In addition, there were 60 held as a first reserve, and 6 more were available for assistance in field training. These figures could be varied according to the requirements of the Army and Navy. The Army and the Navy had the fullest operational control over the units allotted to them. It was an entire travesty of the facts to say that naval and military commanders had no responsibility for them. The Geddes Committee recommended that the aircraft available for co-operation with the Navy should be cut down from 6½ squadrons to 2. The Navy at present had 5½ squadrons, which was a "cut" of one. The Committee recommended in regard to the Army that the air craft should be "cut" from three squadrons to one. The Army had 2½ squadrons, a "cut" of a half.

There were more squadrons allocated for co-operation with the Navy than there were for independent work—preference had been given for the requirements of the Navy.

But for the existence of the Air Ministry, there would not have been so many aircraft available for the Navy. He hoped no more would be heard of reversion to an extensive and disastrous duality.

As to the policy of reconditioning of old machines, he maintained that it was the outcome of a national demand for economy. That policy was now beginning naturally to come to an end; and in the near future it would be necessary to ask for money for the purchase of new machines. Air power could fairly claim today that it could prevent any invasion on a large scale by sea. As a general proposition, it could fairly be said that this country was ahead both in force and design. As far as our experimental types were concerned, the position was absolutely satisfactory with regard to other countries, and very great progress was being made.

As an illustration of possible progress in the near future, he quoted a passage from the forthcoming report of the Civil Aviation Advisory Board, now in process of being signed. They said it must be recognised that an all-red air route could not be mapped out from England to India, but that it was anticipated that soon this would be nearly, if not entirely, achieved by a machine which could make a trip comprising Paris, Marseilles, and Malta—1,130 miles—in one flight.

## IN PARLIAMENT

### R.A.F. Personnel

LIEUT.-COMMANDER KENWORTHY, on July 25, asked the Secretary of State for Air what is the total personnel of the Royal Air Service, male and female, respectively; how many of these are considered to be available to act as pilots and observers in the air, respectively, when required for active service, and not including personnel under training; and how many of these latter are allocated for service with the Royal Navy?

Capt. Guest: According to the latest returns available, the answer to the first question is 28,906 and 46 respectively, the latter figure representing the personnel of the Royal Air Force Nursing Service; to the second, 1,714 fully trained pilots and 109 observers, excluding those under flying training. It would be difficult to assess the proportion of this number of pilots and observers who can be said to be employed on naval duties, but there are 373 first line aeroplanes in service units without counting training or reserves, and these are manned by 461 pilots and 92 observers, of whom 84 pilots and 35 observers work with the Navy, namely, about 20 per cent. Of the remaining 1,253 pilots, the proportion employed on work with the Navy is probably about the same.

Lieut.-Commander Kenworthy: Does not the right hon. gentleman think it very anomalous that, with a very big Navy and a comparatively small Army, only 20 per cent. of the available pilots are attached to the Senior Service?

Capt. Guest: The hon. and gallant gentleman forgets that two-thirds of the Royal Air Force is stationed overseas.

Lieut.-Commander Kenworthy: Have we not got numerous fleets overseas, and ought not they to have their proper proportion of pilots?

### Torpedo School, Gosport

VISCOUNT CURZON asked the Secretary of State for Air whether he can give details as to the experimental Royal Air Force torpedo school at Gosport and as to the work carried on there?

Capt. Guest: The Air Force establishment referred to at Gosport is not a torpedo training school; it is a flight maintained for experiments with the running of torpedoes from aircraft and for the study of modifications to aircraft fittings and to torpedoes in connection with such work. In this work the Naval Torpedo School, described as H.M.S. *Vernon*, closely co-operate. The flight consists of three machines, with an establishment of 4 officers, one of whom is attached from the Navy, 18 other ranks, and 3 civilian assistants.

### Naval Officers and Air Training

COMMANDER BELLAIRS asked the Parliamentary Secretary to the Admiralty whether he will clear up misunderstandings by stating the reasons why young officers were not forthcoming when the Air Ministry asked if 400 could be seconded from the Royal Navy?

Mr. Amery: There is no record at the Admiralty of the Air Ministry having asked for a definite number of officers (400) to be seconded to the Royal Air Force. Early in 1920, however, the Air Ministry asked that a certain number might be seconded for training as pilots, and, after discussion, a Fleet Order was issued in July, 1920, inviting officers to volunteer. The response to this invitation was very unsatisfactory, in spite of senior officers having been asked to bring the matter to the notice of young officers, and only seven names were received, these seven starting training in September, 1920. During the winter of 1920-21 further discussion took place with the Air Ministry with a view to the seconding of a further number of officers, the ultimate total aimed at being 100, but the conditions, which the Admiralty thought were necessary to secure enough volunteers to make the scheme a success, were found to be unacceptable to the Air Ministry. As there appeared to be no possibility of agreement, the matter dropped, the Air Ministry taking steps to find from other sources all the pilots required. The Admiralty have, of course, no power to second an officer to another service without his consent.

Major Sir B. Falle: Will the offer be repeated?

Mr. Amery: I am willing to discuss the matter with the hon. and gallant member.

### Naval Aircraft

LIEUT.-COMMANDER KENWORTHY, on July 26, asked the Parliamentary Secretary to the Admiralty how many aeroplanes, seaplanes and pilots are at present with the China, East Indies and North American squadrons, respectively, or available for immediate service with those squadrons?

Mr. Amery: No aircraft are at present with these squadrons. All fleet aircraft will be available for service in any waters as aircraft carriers become available.

Lieut.-Commander Kenworthy: Are steps being taken to supply these squadrons which are designed and placed for operating on wide stretches of sea where aeroplanes are of vital import?

Mr. Amery: We are pushing forward aircraft carriers.

Lieut.-Commander Kenworthy: Are not the cruisers on these foreign stations permitted and able to carry their own aircraft, as in the War?

Mr. Amery: Will the hon. and gallant gentleman please give me notice?

Speaking of the policy of the substitution of air force for other force, he contended that the progress made had not been bad, but we must be careful not to go too fast. Where the new force was more efficient for the same expense, or equally efficient for less expense, it was the intention of the Government to use air force. While they wanted to see a healthy civil aviation, both from the industry and the machinery point of view, the first question was how far it could help the defence of the country. How much was it worth while to pay towards it in order to make it a reserve for Service aviation? It was probable some new arrangement would have to be made in regard to the cross-Channel services in order to obviate loss. He had been assured by a prominent member of the aircraft industry that they would rather that whatever money was available was spent wholly on Service aviation. They had, therefore, to beware of adopting broadcast the suggestion that by subsidising civil aviation they promoted the power of defence. The Government not only had a definite air policy, but it had a sane policy the country could have taken up—namely, to avoid expense as far as that was justifiable and to build up the nucleus of a very efficient organisation which would be capable of expansion.

Capt. Viscount Curzon asked what are the types of aeroplane which have to be engaged by a fighting aeroplane at sea; whether any other duties are required of such a machine; and when were the fighting aeroplanes now in use in the Royal Navy constructed?

Mr. Amery: The types of aircraft which it is expected fighting aeroplanes would have to engage at sea at the present time are as follows—other fighters, bombing, reconnaissance, torpedo and spotting aircraft, seaplanes and flying boats. They would also attack the enemy as and when opportunity offered. The information asked for in the last part of the question is not in the possession of the Admiralty.

Viscount Curzon: Does my hon. friend think six fighters plus three with-out pilots are sufficient to discharge these duties of the Navy?

Mr. Amery: That is a matter to be discussed on the Votes.

Viscount Curzon asked whether there is now at sea or capable of being worked at sea in the Royal Navy or the Navy of any other country in the world, so far as the information at the disposal of the Admiralty is concerned, an aeroplane capable of sinking one of our capital ships by either bomb or torpedo?

Mr. Amery: The answer is in the negative.

### Naval Officers and the R.A.F.

LIEUT.-COL. MOORE-BRAHAZON, on July 27, asked the Secretary of State for Air if any naval officers have been seconded to the Air Force during the last 12 months for training as pilots; and whether any difficulty has been experienced in getting naval officers for flying training?

Capt. Guest: Seven naval officers were seconded to the Royal Air Force in 1920, since which date no others have been seconded, in spite of the earnest desire of the Air Ministry to secure volunteers.

### Marine Craft

VISCOUNT CURZON asked what is the number of marine craft maintained by the Air Ministry; where are they built and where are they repaired; how many men are required to man them; and where do they obtain their nautical knowledge?

Capt. Guest: The answer to the first question is that the establishment of marine craft maintained in use in connection with the operation and salving of aircraft is as follows:—Power driven craft, 35; pulling boats, 21; barges, etc., 3. There is also a surplus of War stocks of marine craft which is held as a reserve and for replacement. These craft were, for the most part, taken over by the Admiralty on the formation of the Air Force in 1918; to the second, that the information as regards building is not in all cases available, but the craft have mainly been built by Messrs. Thornycroft, Messrs. Cox and King, and Messrs. Gibbs. The repairs are carried out by direct contract; to the third, that the answer is 127; to the last, that training is for the most part carried out in the Royal Air Force units to which the boats belong, and also at a small marine training establishment at Calshot.

Viscount Curzon: Do the figures just given include any craft which are maintained on the Tigris?

Capt. Guest: I think not. I will look into it.

### Air Force Reserve

VISCOUNT CURZON asked the Secretary of State for Air whether he can give any details as to the new Air Force Reserve; whether it is intended to provide out of this Reserve for the requirements of the Navy; whether any of the pilots provided under this scheme would be able to fly on and off an aircraft carrier or off a flying platform; if not, how long would be required to train them and how many carriers would be required for the purpose; whether observers are included; how long would be required to train them for their duties; and whether it is considered that the annual training provided for under the scheme is sufficient to train pilots and observers to carry out their duties in the squadrons of the Royal Air Force attached to the Royal Navy?

Capt. Guest: I am glad of this opportunity of correcting a misapprehension which has arisen. The statements which have appeared in the Press recently to the effect that a new Air Force Reserve was being created are not quite accurate. The position is that officers who were granted short service commissions in 1919 for a period of three years' service on the active list, followed by a period in the Reserve, will commence to pass into the Reserve this year. The first officers will be transferred in September. The Reserve is intended to provide for the requirements of the Air Force at a time of national emergency including the duties of the Air Force in connection with the Royal Navy. A number of the pilots who are at present serving on short service commissions, and who will in due course pass into the Reserve, are fully trained and experienced in naval work. The Reserve also includes observers. It is considered that the annual training provided for under the scheme will be sufficient to keep pilots and observers in training to carry out any Air Force duties which they may be called upon to perform, including duties in the squadrons of the Royal Air Force attached to the Royal Navy.

### Aeroplane and Engine Orders for Constructors

SIR H. BRITAIN asked the Secretary of State for Air whether, seeing that the House is to adjourn for three months, he can state if his Department will have the necessary funds to enable it to give orders to aeroplane and engine manufacturers, and so enable those selected to keep their works going and their staffs together during the period until the House meets again?

Capt. Guest: I fear I am not yet in a position to make any statement such as that suggested by my hon. friend, nor can I promise to make an announcement on this subject before the House rises. The possibility of giving further orders to the aircraft industry beyond those already budgeted depends upon the decisions of the Committee of Imperial Defence.

Sir W. Joynson-Hicks: Does the right hon. gentleman realise the necessity for doing something in this matter? Is he in a position, the money having been already voted, to do something before the House rises?

### Auxiliary Air Force

Mr. L. MALONE asked the Secretary of State for Air if he can make a statement as to the proposed constitution of the Territorial Air Force; and what will be the cost?

Capt. Guest: The constitution of the auxiliary or Territorial Air Force will in general be similar to that of the Territorial Army, except in so far as differences in regard to service, training and material in the two arms make a divergence necessary. As stated in my reply to my hon. and gallant friend, the Member for East Lewisham, on July 10, it is uncertain when the Bill for the Auxiliary Air Force can be proceeded with, the whole question of home defence, with which this is bound up, being under consideration by the Committee of Imperial Defence. The cost will depend on the size of any such force it is decided to raise.

Mr. Malone: Is it proposed to take the cost out of the battleships which are being built now?

### Royal Air Force (Naval Wing)

LIEUT.-COL. MOORE-BRABAZON asked the Parliamentary Secretary to the Admiralty how many naval officers have been trained as pilots or observers by the Royal Air Force in the last 12 months; and whether any of them have completed their flying training and become qualified pilots?

Mr. Amery: No naval officers have been trained as pilots during the last 12 months. Eleven naval officers have been trained as observers.



London Gazette, July 28, 1922

#### General Duties Branch

R. G. Chapell is granted a short service commn. as a Pilot Officer on probation, with effect from, and with seniority of, July 14. Flying Officer H. St. C. Roy, M.C., is transferred to the Reserve Class B.; July 26.

#### Stores Branch

N. E. D. Hutchinson is granted a short service commn. as a Flying Officer on probation for Accountant duties; July 10. His name will be placed on the gradation list immediately below Flying Officer B. C. Powell. Flying Officer D. C. Gribble resigns his short service commn.; July 26.

#### Medical Branch

Flight-Lieut. A. C. Ransford is granted a short-service commn., retaining his present substantive rank and seniority; July 25.

#### Chaplain's Branch

The Rev. D. F. Stephens is granted a short service commn., with the relative rank of Sqd.-Leader for purposes of precedence, discipline and administration; July 1.

#### Memorandum

Flying Officer W. Rollinson relinquishes the acting rank of Flight-Lieut.; June 15. The permission granted to A. Bevan to retain the rank of Lieut. is withdrawn on his joining the Army; June 26.

## LONDON TERMINAL AERODROME

Monday evening, July 31.

The passenger total is creeping steadily upward. The month's total is well over 1,500, and the prospects for August are quite good, advance bookings being already fairly heavy. There is still time for the traffic to reach figures that will justify still bigger developments next year in the way of organising machines and routes.

The A.I.D. have made a thorough examination of the D.H.34, G-EBBS, which the Daimler Airway have run nearly 60,000 miles in three months, and their report on this machine states that it is as good, if not better, than when it came from the makers. This fact will completely alter all ideas of depreciation of machines. At one time 1,000 hours was considered quite a liberal estimate of the life of a machine; but now, with this machine having completed nearly 700 hours in three months, and being as good as new at the end of it, an estimate of, say, 4,000 to 5,000 hours is quite reasonable, and will cut down depreciation—and thus the cost of running the service—enormously.

### Our Early-rising Director of Aviation

MAJ.-GEN. SIR W. S. BRANCKER, Director of Civil Aviation, who has been causing both airway managers and pilots to rise earlier than usual by calling meetings on the aerodrome, to discuss various matters, at the early hour of 9 a.m., flew to Paris on the 5.30 a.m. Daimler newspaper machine on Wednesday last. The weather was very thick, but the pilot tells me that Gen. Brancker thoroughly enjoyed himself, and when they arrived in Paris rather later than usual, and found that they were short-handed for unloading the machine, the General set to work with the rest in order to get the papers unloaded and off to Paris. Gen. Brancker was attending the International Conference on Air Navigation, which was held in Paris on Wednesday and Thursday last.

The Marconi Company are to fit wireless telephones in two new Fokker monoplanes, which are fitted with Rolls-Royce engines, and are to be put on to the K.L.M. service between London and Holland. I understand that the "Puma" monoplanes are not to be fitted with wireless, as it is expected that these will be replaced by newer and more up-to-date machines next season.

### Business Men's Bet about a Flight

MR. B. YUELL, of the Surrey Flying Services, piloted one of that Company's Avros to Walton-on-the-Naze on Wednesday afternoon, carrying as passengers two City men who, during lunch, had made a bet that they would fly. This incident well illustrates the average business man's attitude towards flying. They evidently regard it as extremely dangerous, and it is encouraging to think that there are at least some who have never flown who have the courage to risk it. Mr. Youell landed them in the grounds of

a house at Walton-on-the-Naze, and they stayed there until just before dusk, flying back to Croydon in the dark and landing with the aid of the lighting equipment. They were highly delighted with their trip, and intend to fly to Paris later.

During the week-end the Surrey Flying Services had their usual bad weather, but in spite of this two of their machines were kept busy with joy-riders. The third Avro which they have built is now in use, while the old one, G-EARL, which saw service with "Airco," is now in the process of overhaul. This machine must have made more landings than any other machine on the aerodrome.

During the week the Messageries Aeriennes decided to run their 1.15 p.m. service exclusively for goods, and to refuse passengers for this machine. They are using the Breguets and Spads, and have removed the seats and interior fittings from the machines so employed. An additional passenger machine, which is whenever possible a "Goliath," has been put on at 4.30 p.m., and will be the last machine to leave for Paris during the day. Incidentally this machine calls at Le Touquet to set down passengers when necessary.

The service of newspaper machines, organised by the De Havilland Aircraft Company from Lympne, is growing rapidly, there being now three a day from there running to Ostend, Brussels and Antwerp, while I understand that they are shortly to start another to Deauville. The old Airco 16's are being used on these services, as well as the three-seater D.H.9's.

The Lep Aerial Travel Bureau are presenting a free insurance policy for £500 to all passengers booking by air at their office during August. Mr. Loader, of Lep Aerial, tells me that it is surprising what low rates the insurance companies are now quoting—the rate being approximately a quarter of what it was two years ago.

### American Family Fly to Paris

AN entire American family of eight people travelled by the Daimler Airway on Friday. This family consisted of father, mother and six sons, whose ages ranged from 11 to 20. They had also half-a-ton of luggage, some of which had to be accommodated on the early-morning newspaper machine. They were unable to travel together as there were previous bookings, and they had to be accommodated in two parties of four on the 12.45 p.m. and 2.30 p.m. services.

Handley Page Transport are now prepared to carry passengers' luggage in advance, collecting and delivering it in a similar manner to railway companies. This should be a great boon to passengers, always provided that the Customs difficulties can be got over. Talking of Customs, I understand that the number of duplicate forms now demanded by the Customs people has grown so large that if the increase

continues at its present rate there will soon be no room in the machine for anything except Customs forms, and the passengers and freight will have to go by boat and train.

As a result of the new orders issued by the Air Ministry, that pilots must make six landings on a machine before having it put on their licence, the service machines have been delayed on several occasions by these landing tests obstructing the aerodrome, and it has been necessary for the C.A.T.O. to issue a notice forbidding such tests between the hours of 10 and 4.

## SOCIETY OF MODEL AERONAUTICAL ENGINEERS (London Aero-Models Association.)

THE next important outdoor meeting will be held on Wanstead Flats, Sunday, August 20, at 11 a.m., when members will make an attempt to improve the British records. Members wishing to have a copy of present records can obtain same from Mr. C. A. Rippon (Competition Secretary), 52, Fairbridge Road, Holloway, N. 19.

On Saturday, September 2, the competition for Mr. Felix Kelly's Challenge Cup for Compressed Air Driven Models will be held, full particulars of which have already been published.

Members are requested to attend Headquarters, 20, Great Windmill Street, Piccadilly Circus, W. 1, as often as possible, every Thursday, at 7.30 p.m.

Hon. Secretary, A. E. Jones, 48, Narcissus Road, West Hampstead, N.W. 6.

## A Transatlantic Savoia

FROM Rome it is reported that the Savoia firm have commenced the construction of a new three-engined flying boat for the Portuguese aviators Cabral and Coutinho, in which it is intended to cross the Atlantic from west to east. The new boat is stated to have a range of about 3,000 miles. A similar boat has been ordered by the Danish polar expedition.

## Chanteloup's Stunt

ON July 27 the well-known French pilot Chanteloup succeeded in landing his caudron on the lip of the crater of the Bromo volcano in Eastern Java. The volcano is stated to have been in full eruption at the time. After a stay of a few minutes he took off again and returned to his starting point, Malang.

## De Havilland Service to Ostend

THE De Havilland Co., using three D.H. 9's and a D.H. 16, made some 20 flights each way between Lympne and Ostend during last week. Three trips, out and home, were made each day, except on the 26th and 27th ult., when four were accomplished. Goods and newspapers were carried on the outward trips, and 12 passengers on the return trips.



FOR THE SCHNEIDER CUP: Swinging the Napier Lion-engined Supermarine Flying Boat on to the S.S. "Philomel" at Southampton for transshipment to Naples. In the group are Capt. H. J. Field, Mr. Scott-Paine and Mr. Braid. The date for the Schneider Cup was advanced by two weeks, and it was only by the sportsmanlike action of the General Steam Navigation Company in diverting the "Philomel" to Southampton from her normal course to Naples that the Supermarine boat will be enabled to make a bid at Naples to bring back the Cup to England.

## PUBLICATIONS RECEIVED

- Aeronautical Research Committee, Reports and Memoranda:*—  
No. 756 (Ae. 19). *Tail Loads in Recovering from a Vertical Dive at Terminal Velocity.* By John Case, M.A., and S. B. Gates. April, 1921. Price 1s. 6d. net. By post 1s. 7½d.  
No. 762 (Ae. 23). *Lift and Drag of B.E.2E. with R.A.F. 14 Wings.* By the Aerodynamic Staff of the R.A.E. October, 1921. Price 4d. net. By post 4½d. London: H.M. Stationery Office, Kingsway, W.C. 2.  
No. 767. (Ae. 27.) *The Calculation of the Characteristics of Tapered Wings.* By H. Glauert. May, 1921. Price 3d. net. By post 3½d.  
No. 770. *The Drag Curve of R.A.F. 14. B.E.2e Wings Obtained by Full-Scale Experiments.* By the Aerodynamic Staff of the Royal Aircraft Establishment. October, 1921. Price 4d. net; by post 4½d. London: H.M. Stationery Office, Kingsway, W.C. 2.  
No. 776. *Load Factors for Commercial Heavier-than-Air Craft. Report of the Load Factor Sub-Committee.* January, 1922. Price 3d. net. By post 3½d. London: H.M. Stationery Office, Kingsway, W.C. 2.  
No. 777.—*A Directional Hot-Wire Anemometer.* By A. Bailey, M.Sc. Jan., 1922. Price 6d. net; by post, 6½d. London: H.M. Stationery Office, Kingsway, W.C. 2.  
*Report of the Aeronautical Research Committee for the Year 1921-22.* London: H.M. Stationery Office, Kingsway, W.C. 2. Price 2s. 6d. net; by post 2s. 7½d.  
*Report No. 127. Aeronautic Instruments, Section III; Aircraft Speed Instruments.* National Advisory Committee for Aeronautics, Navy Building, Washington, D.C., U.S.A.  
*Technical Note No. 99. Notes on the Standard Atmosphere.* By W. S. Diehl. National Advisory Committee for Aeronautics, Navy Building, Washington, D.C., U.S.A.

## AERONAUTICAL PATENT SPECIFICATIONS

*Abbreviations:* cyl. = cylinder; I.C. = internal combustion; m. = motors. The numbers in brackets are those under which the Specifications will be printed and abridged, etc.

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